

A typical meteorological information sheet handed to the pilot before departure on one of the Atlantic crossings. The diagrammatic map is divided into different areas, for which the conditions are duly given in the typed table. The amount of recording and forecast work involved in the compilation of the sheet may well be imagined.

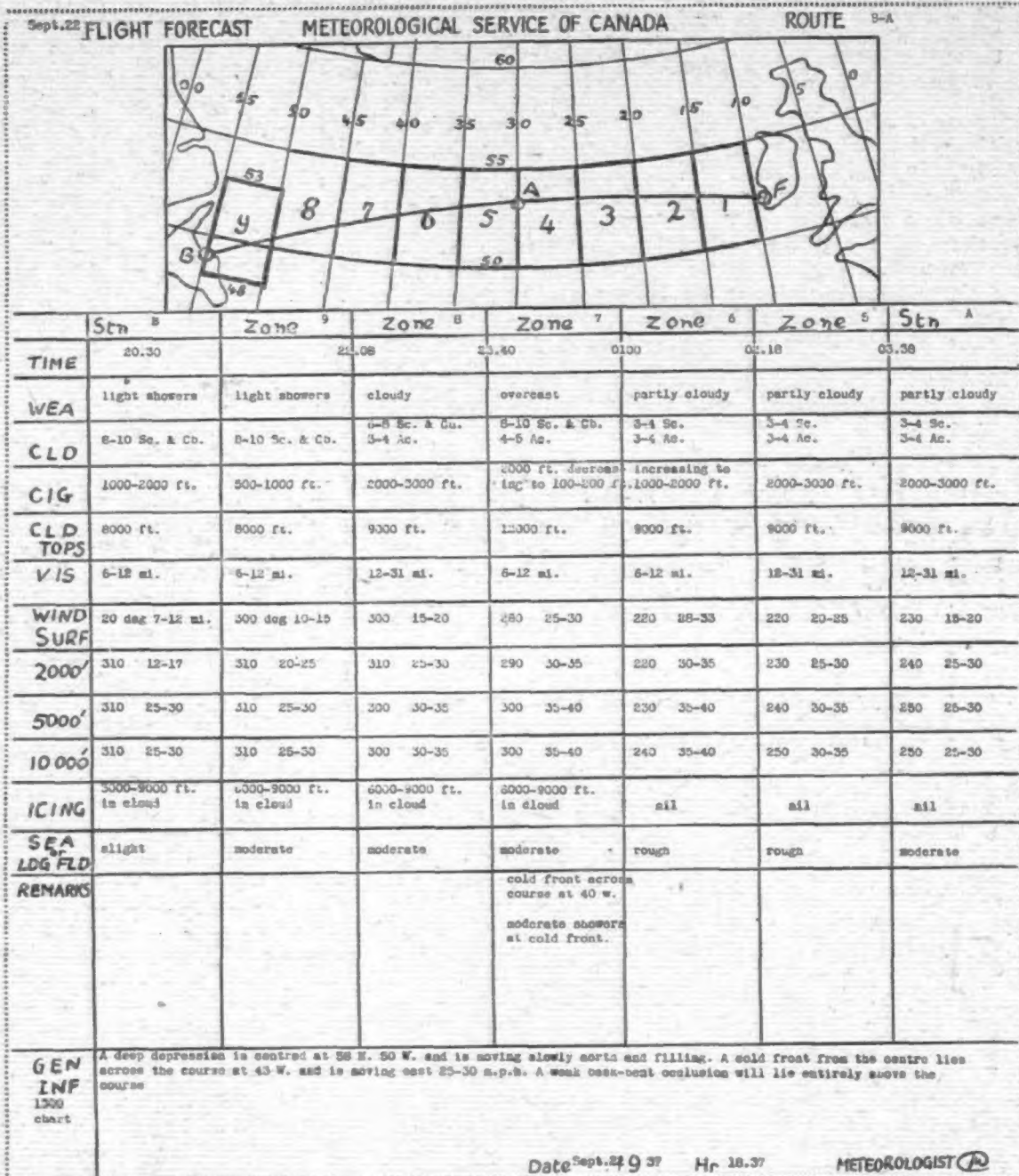
flight, and the results thus obtained, coupled with the eye readings from the strut psychrometer and the pilots' observations, gave the only definite information available on the structure of the "fronts" moving out over the Atlantic, the associated icing conditions and cloud systems. The information from these ascents, together with weather and pilot balloon reports, were transmitted daily to Foynes, Port Washington, Montreal and the Head Office in Toronto.

The combined staffs were faced with a strenuous task in getting everything in shape for the summer's programme. The receiving and transmitting of the meteorological data alone proved a formidable task with the equipment available. The demands of the meteorological officers increased hourly until, on the eve of the first flight, between 10,000 and 12,000 words of meteorological information were being handled daily. Half of this was received in the form of broadcast collective messages from Arlington, Rugby, Louisburg, Julianehaab and Norddeich. The other half was in point-to-point communication with Foynes, St. Huberts, Port Washington and North-West River. The broadcast meteors and communications with St. Huberts and North-West River were handled on three receivers and a key in the meteorological office; the remainder were dealt with in the wireless receiving building. Communication between this building and the meteorological office was still limited to a boy on a bicycle, but the distance was now only slightly over five hundred yards.

Radio Co-operation

An account of the troubles experienced in the establishing of the necessary wireless schedules, which reached a maximum of fifty-three per day exclusive of air-to-land communication, with the dawn effects in the early morning schedules with St. Huberts, in the northern lights and their effects on short waves, and with skip distances would be out of place here. But without the untiring efforts of the Botwood wireless staff and the full co-operation of all the stations involved, the meteorological office would have been seriously handicapped by lack of information.

The meteorological data collected, comprising over ninety per cent. of the total traffic handled by the wireless station, provided the material for four weather maps per day, each covering the region from the Pacific Coast of North



America to the Eastern boundaries of Europe and from latitude Twenty North to Northern Greenland, two aerological maps of North America, and various upper air charts and forms. Part of this information, consisting of a selected list of American station reports and ship reports, was relayed four times daily to Foynes.

The first test of this organisation came on June 27. On the 26th a twenty-four-hour notice of departure was received from *Clipper III* for a flight from Port Washington to Botwood via Shediak, leaving at 12.00 G.M.T. on June 27. At 10.00 on the 27th a weather report for Botwood and a flight forecast for the route Shediak to Botwood was despatched to Port Washington. At 11.00, and every hour thereafter, on the hour, a Botwood weather report was sent to the machine. With the fourth of these the Botwood upper wind report was included and fifteen minutes before the machine was due at Botwood the landing report was sent. In return, the crew sent hourly weather reports and these were checked step by step with the forecasts.

Clipper III left Port Washington at 11.35 G.M.T. and, after a stop of one and a half hours at Shediak, arrived in Botwood at 22.21. The return flight on the 29th was conducted on similar lines. The round trip ran very smoothly and, as was to be expected, brought to light a few weak links in the organisation. These faults were quickly removed and the necessary revision of schedules made.

The complete test began on July 3 when *Clipper III* left Port Washington for her first Atlantic crossing. The trip to Botwood was uneventful. All schedules were satisfactorily maintained and the machine covered the route, in-